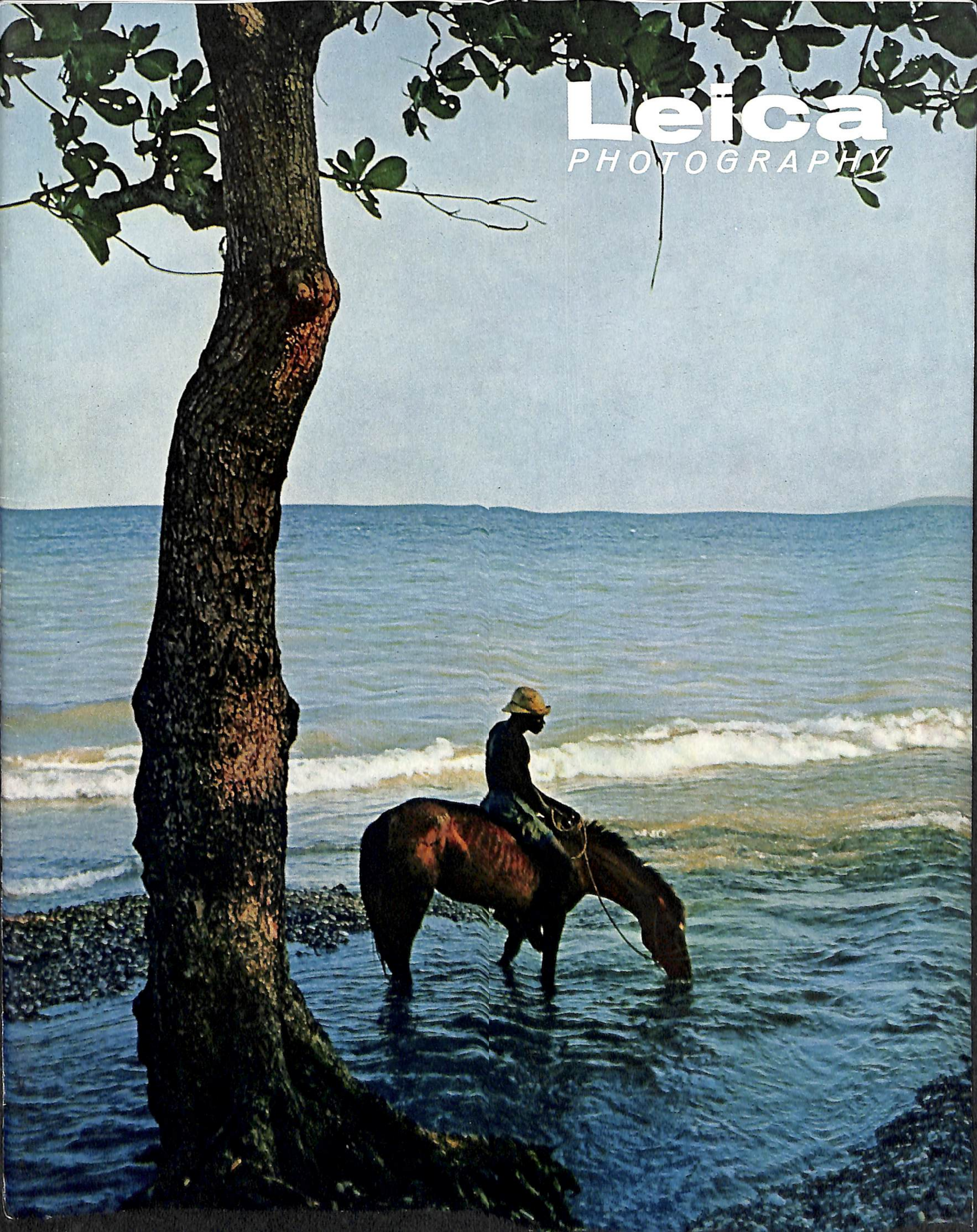
Leica PHOTOGRAPHY



Leica PHOTOGRAPHY®

VOLUME 19 • NUMBER 1 • 1966

EDITORIAL BOARD ..... Eugene C. Anderegg
William H. Mann
Bob Schwalberg
Helen Wright

contents:

STEPS TO SALON SUCCESS
George Peters 4

NEW PRODUCTS
28mm Elmarit f/2.8 Lens, Leicaflex Carrying Cases 7

FOCUSING ON 8

HIGH CONTRAST FOR HIGH IMPACT
Chic Lloyd 9

SHOW PLACE
Charles Harbutt 12

GRAY SCALES: KEY TO PHOTO CONTROL
Peter Moore 18

BIG GAME? BIG LENS!
Thase Daniel 23

BRING YOUR WORDS TO LIFE
Walter Benson 26

Leica Photography is published by E. Leitz, Inc., at 468 Park Avenue South, New York, N. Y. 10016, price forty cents. Copies are sent free of charge to all original purchasers of new Leica cameras or lenses residing within the United States of America and U.S. Territorial Possessions who have registered such new equipment with E. Leitz, Inc. To all others, a subscription fee of $1.00 per year is charged in the U.S.A., and $2.00 elsewhere. Single copies are on sale at photographic dealers' stores, or direct from the publisher.

The editors are happy to consider original articles on photography with the Leica and photographs taken with Leica cameras and lenses. All manuscripts and photographs should be accompanied by stamped, self-addressed return labels.

COVER

Charles Harbutt

This Haitian pastoral may cause you some uneasiness about whether the horse should be drinking sea water. But it is actually drinking fresh water from the mouth of a river emptying into the sea. Leica M2, 35mm Summicron.

◀ INSIDE COVER

Constantine Manos

Manos made this evocative picture on the first day of school in Leningrad, where it is traditional for first-graders to bring flowers to the teacher. Leicaflex, 90mm Elmarit-R at f/8.

The following are registered trademarks:

BINDOMAT®
CINOVID®
CLASSIMAT®
COLORPLAN®
DYGON®
E. LEITZ, INC.®
E. LEITZ, WETZLAR®
ELCAN®
ELMAR®
ELMARIT®
FOCOSLIDE®
HEKTOR®
LEICA®
LEICAFLEX®
LEICA-METER®
LEICA PHOTOGRAPHY®
LEICINA®
LEITZ®
ORTHOLUX®
PANPHOT®
PERFLEKTOMETER®
PRADOVIT®
REPROVIT®
SIMPLEX®
SUMMARON®
SUMMICRON®
SUMMILUX®
TERICAN®
TRINOVID®
VISOFLEX®

COPYRIGHT 1966 BY E. LEITZ, INC. PRINTED IN U. S. A.

steps to salon success

George Peters

technique of a prizewinning amateur

PIPEMAKER-PHOTOGRAPHER Jud Chambless dispenses 35mm tips along with pipes and tobacco in his shop. Note salon prints.

Have you ever wondered what secret skills and arcane knowledge go into making successful salon photos? I have, so I decided to seek out a prominent exhibitor in my hometown of Houston, Texas and ask him.

Jud Chambless, a 44-year-old tobacconist and pipe maker in Houston, is also a skilled amateur photographer with many local and competition prizes to his credit. When you ask for technical help in 35mm photography at Houston camera stores, chances are you'll be referred to Jud.

love of outdoors

The secrets of his success are simple, and he's happy to share them with you. But unlike many successful photo hobbyists, Chambless did not start learning his "secrets" while still in short pants. He didn't begin making pictures until he was in his 30's. As an outdoorsman and camper in post-war years, he wanted to record some of the beauty he encountered in his long camping trips throughout this country.

"I bought an inexpensive 35mm camera in 1965 to make color slides. The slides were pretty, but something was missing. There was no feeling of accomplishment."

Apparently he was preserving the scene satisfactorily, but there was no satisfaction of his desire to create, for artistic expression.

"It was in the fall of 1957," Jud recalls, "that I invested in my Leica M3 with a 50mm Summicron, a 135mm Hektor and a Visoflex. At the same time, I bought the Valoy II enlarger with a Focotar lens."

Jud's first black-and-white prints were made for the Houston Photographic Society's competitions. He submitted 11 x 14 prints, but the winners were almost always 16 x 20's. Chambless switched to the larger print size and soon began to win competitions, not only against local photographers but also in the PSA National in 1960 and the Houston International Exhibition of Photography, 1964. He won local newspaper contests so regularly the contests have been discontinued. Jud's photos, 34 of them, were recently exhibited in a one-man show at Sam Houston State College's Photography Department as an example of what can be done with 35mm.

What's the secret? How did he graduate from casual snapshooter to successful salon exhibitor?

choosing subjects

To begin with, Jud says, he doesn't look for the "decisive moment."

Instead, he dramatizes with lights and shadows. He photographs scenics and animals mostly, and he shoots early or late in the day when the sun creates stronger shadows. He uses an orange filter, except for macro-photography, to intensify his contrasts.

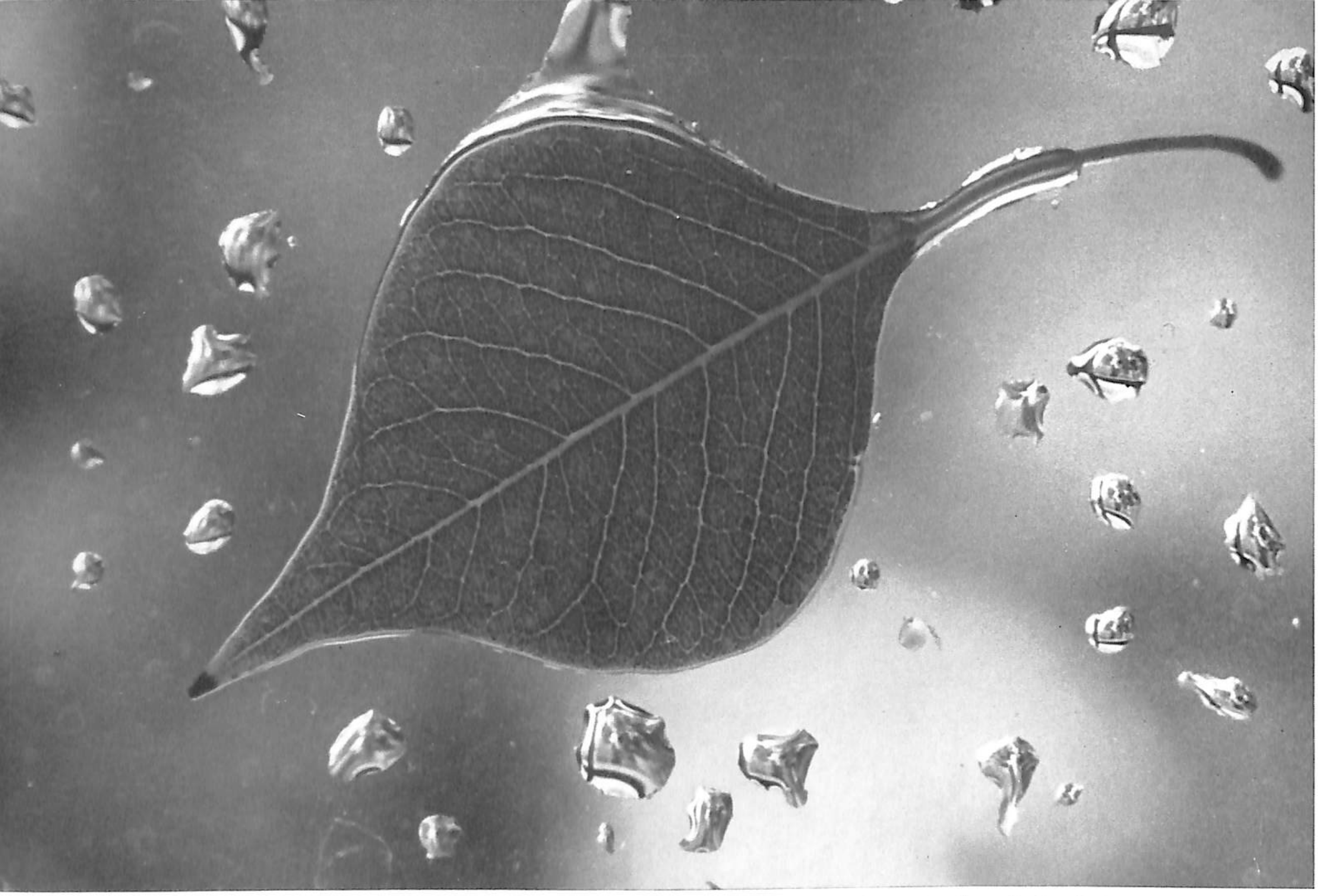
After choosing a subject, Chambless says, it's important to get the details of the subject and to *isolate* it from unimportant surroundings – either by approaching closer or by changing to a longer lens.

film and exposure

Jud uses Panatomic-X, rating it at ASA 100. This constant use of one film permits him to become acquainted with its characteristics under all conditions.

Before every shot, he reads the subject lighting with great care. He does not bracket his exposures, but depends entirely on the consistent accuracy of his meter, his aperture and his shutter. They give him an exposure, which, under consistent processing, will yield a negative suitable for making his fine 16 x 20 prints.

CRESCENT LAKE, Olympic National Park, Washington ▶



A HURRICANE stuck this leaf to a window. The picture, made with Visoflex, 135mm, has hung in two International Exhibitions.

processing and negative care

Chambless develops Panatomic-X in either FR X22 or Ethol TEC.

"For consistent results," says Jud, "take meticulous care at every step. I use rigid time, temperature and moisture control. Processing temperature is 68 degrees . . . not 67½ or 68½ . . . and my time control is as close to 8½ minutes as a clock can measure it."

"And don't forget that chemicals are the cheapest part of photography. It doesn't make sense to take a chance. I always use fresh chemicals."

After drying, the negatives are cut into six-frame strips and contact prints made on an 8 x 10 sheet.

The negatives are then stored in glassine envelopes and number-keyed to the contact prints. The contact print, then, becomes the file key by which any of more than 4,000 negatives can be located quickly.

printing

Every effort is made throughout the process to keep negatives absolutely clean. Jud uses what he calls a "dry" blow of his breath and a "clean" thumb for in-the-enlarger cleaning. *(An inexpensive blower-brush combination sounds safer, though . . . Ed.)* A tight dust cover is kept on the enlarger when it isn't in use.

All prints are made on Indiatone B, Chambless' favorite paper. He feels it produces tones he can't find in other papers. He rarely makes more than one print because he makes extensive use of test strips. He also does little dodging.

"I pick out important features of the printing area and make necessary test strips . . . sometimes several of them . . . until I'm satisfied with my printing exposure. Thus, I waste very few 16 x 20 sheets," says Jud.

Prints are developed in Dektol, 1:2. "I know this isn't the developer recommended for Indiatone B," Jud admits, "but it gives me the results I'm looking for. There's an extra emphasis on blacks and whites, and I like it."

So, here's a man who has parlayed an M3, a couple of lenses and an orange filter into awardwinning skill and the satisfaction that comes from the creation of beautiful prints. His only "secrets": good equipment and a simple, but disciplined technique. An investment that has paid such dividends is sounder than blue-chip stock!

new cases for Leica and Leicaflex

A new Universal Carrying Case III has been introduced that replaces Universal Case No. II. It is available with three Inserts. Insert I (Cat. No. 14,817) and II (Cat. No. 14,818) for the Universal Case III are for Leica outfits and insert III (Cat. No. 14,819) is for Leicaflex equipment.

Another new case is the small Combination Case for the Leicaflex that holds the camera body fitted with a 90mm lens, plus a 50mm lens (stored under the lens which is on the camera body) and a 35mm lens coupled to a 135mm lens by means of a double-bayonet ring. Lenses can be stored with lens hood and cover attached. Either two filters or an ELPRO close-up lens can also be stored beneath the lens on the camera body.

This little case (Cat. No. 14,822), like its counterpart for the Leica (Cat. No. 14,820) is ideal for an afternoon's field trip. It is light and small, yet carries enough equipment for a variety of jobs.

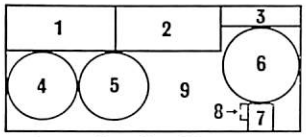
The small Combination Case for the Leicaflex (Cat. No. 14,822) is $49.50.

Universal Case III

The Universal Case III can be used with any of three interchangeable inserts which accept various Leica or Leicaflex outfits. This case is ideal for the Leicaman who owns both reflex and rangefinder Leicas.

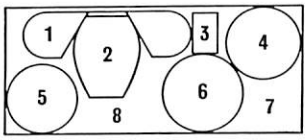
Inserts I and II accept Leica equipment including the Visoflex as shown in the diagram. Also shown is a diagram of Insert III for Leicaflex equipment.

The Universal Carrying Case III complete with either Insert I (Cat. No. 14,807), Insert II (Cat. No. 14,808), or Insert III for Leicaflex (Cat. No. 14,809) is $60.00. The price of the Universal Case III without any Inserts (Cat. No. 14,815) is $39.00. Insert I (Cat. No. 14,817), Insert II (Cat. No. 14,818) and Insert III (Cat. No. 14,819) alone are $21.00 each.



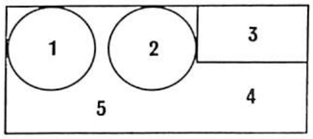
Insert I – Cat. No. 14,817

1. Leica M body
2. Leica M with Leicameter and 35mm or 50mm or 90mm Tele-Elmarit, lens hood and cover
3. Three filter holders (Cat. No. 14,612)
4. 135mm Elmar f/4 with lens hood and cover
5. 21mm or 28mm lens with lens hood and cover
6. 90mm Summicron f/2 or 135mm Elmarit f/2.8 coupled to a 35mm lens without lens hood, or 90mm Elmar f/4 or Elmarit f/2.8 coupled to a 35mm or 50mm lens with lens hood and cover
7. Optical Viewing Unit for 50mm Dual-Range Summicron f/2
8. 21mm or 28mm Viewfinder
9. Miscellaneous accessories



Insert II – Cat. No. 14,818

1. Leica M with Visoflex II or III with Eye-Level Magnifier and Universal Focusing Mount (#16,464) or Short Focusing Mount (#16,467) or Adapter (#16,466) for Visoflex I lenses
2. Universal Focusing Mount (#14,464), Short Focusing Mount (#16,467) or Adapter (#16,466)
3. Leica-Meter
4. 90mm Summicron f/2 or 65mm Elmar f/3.5 lens with covers
5. 90 or 135mm Elmar f/4 or 90mm Elmarit f/2.8 lens with lens hood and covers
6. 200 or 280mm Telyt lens with covers
7. Extension Tube #16,471 and #16,472
8. Miscellaneous accessories



Insert III – Cat. No. 14,819

1. 90mm lens coupled to 35mm or 50mm lens with lens hoods and covers
2. 135mm lens coupled to 50mm lens with lens hoods and covers
3. Leicaflex with 35mm or 50mm lens with lens hoods and cover
4. Four ELPRO close-up lenses with leather holder
5. Miscellaneous accessories

Leicaflex system adds 21mm lens

The 21mm Super-Angulon f/3.4 lens, darling of the press and magazine photographer, is now available to Leicaflex owners as the Super-Angulon-R. This eight-element extreme wide-angle lens, with its 92° angle of view is already known and treasured for its bravura performance in architectural, sports, landscape and other fields where unusual perspectives or all-inclusive views are important.

Its unusual speed for a lens of this short focal length, combined with excellent edge-to-edge sharpness and fine contrast make it a standout for all sorts of interior architectural and even general photography. It is also outstanding for photographing scale architectural models, producing a remarkably lifelike perspective of these small displays.

used with finder

The very short focal length of the 21mm lens makes it necessary for the rear element to be close to the film plane. On the Leicaflex, the rear element of the Super-Angulon-R is so close that the mirror must be locked up out of the way to permit mounting the lens on the camera. This means that an Optical Bright-Line Viewfinder (Cat. No. 12,002) must be used in the Leicaflex's accessory shoe, and the lens focused by scale. The raised mirror also prevents the use of the built-in meter, so diaphragm stops and shutter speeds must be set manually. The incredible depth of field of the 21mm Super-Angulon-R makes focusing virtually unnecessary in most cases, however.

The focusing range of the Super-Angulon-R is from infinity to about eight inches (0.2 m) and focus is set on a dual feet/meters scale. The smallest field covered is approximately 5⅞ x 8¾ inches (148 x 221 mm). Click stops, and half-stops from f/3.4 to f/22 are provided.

The reflex version of the 21mm lens accepts Series VIII filters which are held in place by the round lens hood supplied with the lens. This hood, incidentally, is different from the one supplied with the M-camera version of the lens and the two can not be used interchangeably.

The 21mm Super-Angulon-R f/3.4 lens complete with special lens hood (Cat. No. 11,803) is $303.00.

focusing on...

Leicamen in combat. The Leica, in the hands of combat and news photographers saw extensive war service in Viet Nam in 1965 and 1966. Some well-known Leica photographers have died in action in this war; others, more fortunate, have survived and have produced outstandingly fine pictures of the struggle taking place in Asia.

Killed in action in the last year were Bernard J. Kolenberg, working for the Associated Press and on leave from the Albany (N. Y.) Times-Union, and famous woman photographer Dickey Chappelle, who was on assignment for The National Observer and radio station WOR. Kolenberg lost his life in a mid-air plane collision, while Miss Chappelle was killed by a land mine.

The 1965 Pulitzer Prize was awarded to Leicaman Horst Faas of the Associated Press for his coverage of the Vietnamese war. He also received the Overseas Press Club's Robert Capa award for the excellence of his war photos.

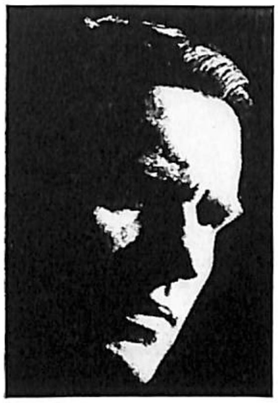
More recently, United Press International staffer Kyoichi Sawada was awarded the main prize in the 10th Annual World Press Photo Exhibition at The Hague, Netherlands for a picture made in Viet Nam. It showed a mother and her children wading a river to escape an attack; it was judged best of 2,700 photos from 49 countries. The photograph was made with a Leica M3 and 135mm lens.

Mr. Sawada received a motorized M2 Leica from Mr. Henry Mann, President of E. Leitz, Inc., as recognition of his fine work. In the photograph above, Mr. Sawada signs a copy of his prize picture "Flee to Safety" for Mr. Mann.

Europe—through—Leica tour. A few reservations are still available for the 21-day "Europe-Through-Your-Leica" tour offered by Lufthansa German Airlines. The tour will leave Kennedy International Airport by Lufthansa jet on Thursday, July 21 at 7:00 p.m., landing in Munich at 9:00 a.m. the next morning. As outlined in Leica Photography No. 3, 1965, the tour will visit scenic and historic areas in Germany (including a stop at the Leitz factory in Wetzlar), Denmark, Norway, Finland and Sweden. A representative of the Leica Technical Center in New York City will accompany the tour as photo consultant, helping tour members to record their trip successfully. The per-person cost of the tour is $1,295.00, which includes jet air travel to and from Europe, motorcoach and steamer travel as needed, first-class hotel accommodations, most meals and many other items. For full information, write to Karl Hardach Travel Service, Inc., 500 Fifth Ave., New York, N. Y., or directly to Lufthansa German Airlines, 410 Park Ave., Dept. BV, New York, N. Y.

high contrast for high impact / *Chic Lloyd*

a tool for creative printing



In photography, there is a never-ending search for new creative approaches to bring forth dramatic, and sometimes bizarre effects that excite the viewer's imagination or increase the photographic vocabulary. While many of these techniques never achieve lasting prominence, the severe blacks and whites of the "Kostinsky Effect" (also named "Eberhardt Effect," "Adjacency Effect," etc.) have been used repeatedly – principally for advertising and fashion work, but also for portraiture, abstractions and even landscape photography.

By copying a continuous-tone original repeatedly on a high-contrast negative material, you can eventually eliminate all middle-tones. The relationship between highlights and shadows is divided into stark blacks and whites. The result, ordinarily, is a negative in "line." It can be achieved with almost any negative, but best results are obtained from contrasty originals.

the procedure

The process itself is extremely simple, though it lends itself to countless variations.

Step One: Select a negative – preferably one which depends on masses of tone for effect rather than on detail. Make the best possible 8 x 10 print of it. Copy this print on Eastman 35mm High Contrast Copy film and develop the resulting negative in fresh Dektol at 1:1 for 6-9 minutes at 68°F. The result is a negative, in which most of the middle-tones have been lost.

Step Two: After the negative has been fixed, washed and dried, make an 8 x 10 enlargement on a #4 grade paper or through a high-contrast filter on variable contrast paper. Copy this print again on High Contrast Copy film. The result will be a high contrast negative, with shadow areas completely transparent and all highlights solid black. This system allows you to make Leica copy negatives, from which you can make big enlargements. Using your Leica and a copy accessory like the Focoslide or Auxiliary Reproduction Unit, BOOWU, you will get file negatives, which can easily be stored with your other Leica photographs. High Contrast Copy film in 35mm size can be ordered through any photostore and comes in 100-foot rolls.

emergency copying

If no copying device is available, it is possible to use your Valoy or Focomat enlarger for the job. A special film holder (Cat. No. 17,670) is available for these enlargers and holds a single strip of film converting the enlarger into single-exposure copy cameras.

To use the enlarger for copying your 8 x 10 prints, do this: put any sharp 35mm negative in the enlarger and focus it to at least an 8 x 12 inch baseboard. Then place the print to be copied in this area, being sure that the enlarger beam covers all parts of it. Next light the print to be copied with two lamps whose light hits the print evenly from both sides and at a 45° angle.

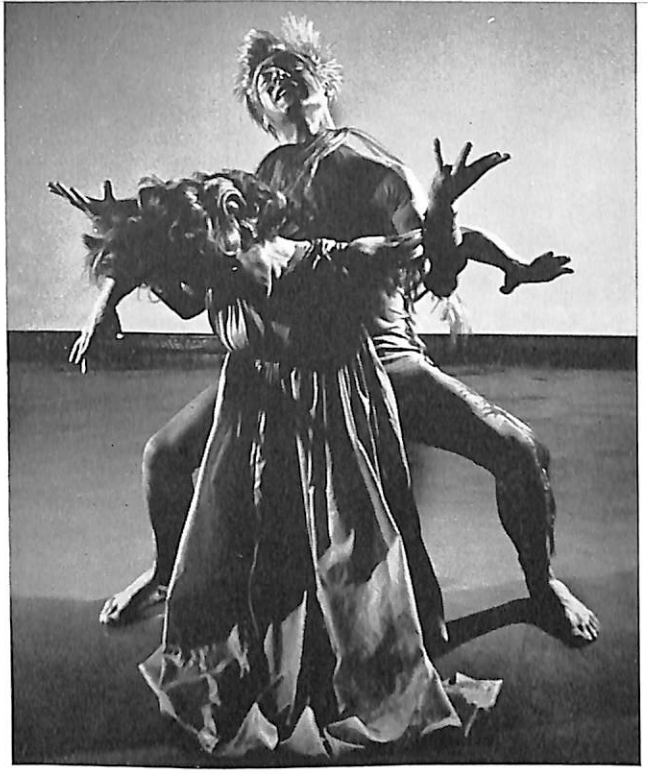
Take an exposure reading based on High Contrast Copy film. Then switch off all lights and replace the negative used for focusing the enlarger with a short strip of High Contrast Copy film held in the special Film Holder mentioned above. Still in complete darkness, cover the enlarger head carefully with a black cloth to keep all extraneous light from reaching the film.

The final step is to switch on the lights used to illuminate the print for the pre-determined exposure time. It is a good idea to make three bracketed exposures – one at the recommended time, one at half that time and one at twice the time.

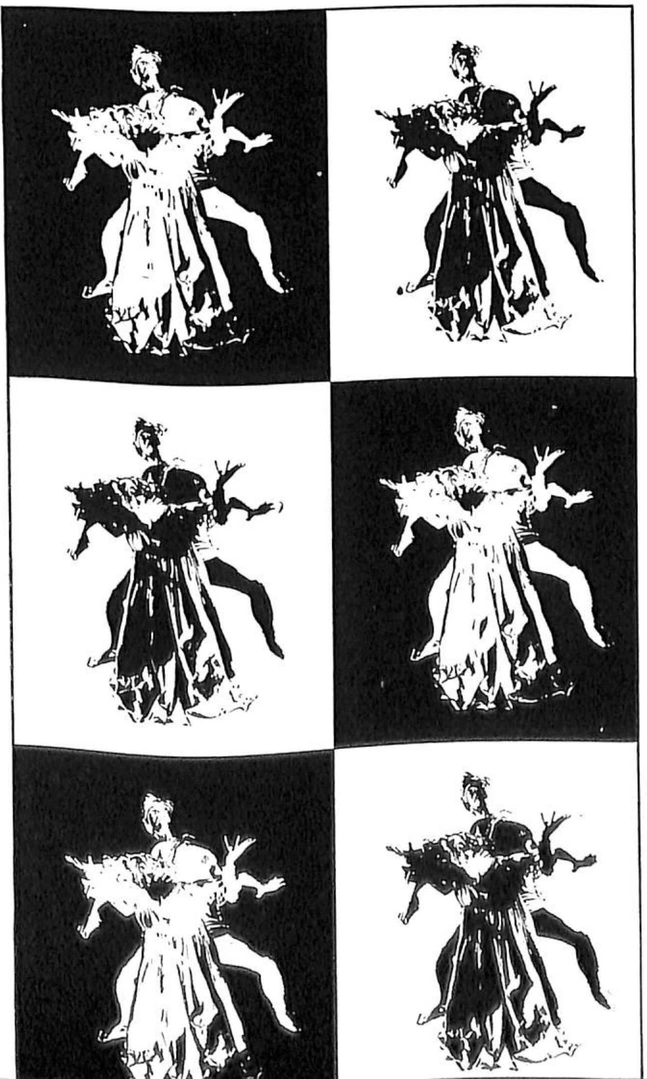
a very practical process

Another important use I have found for this process is the making of masks for multiple printing. Being a purist in this respect, I have never believed in the method of pasting up prints and making a copy negative of the complete paste-up job. I prefer to work out my own design, then ink it in with India Ink and copy it on Litho or Process film.

The design is first copied with the Leica and the BOOWU on 35mm High Contrast Copy film. Then



ORIGINAL PHOTO (above) shows members of Contemporary Dancers, a San Francisco dance group. The dramatic lighting was provided by three electronic flash units, and the picture was made on Panatomic-X with a Leica M 3 and 28mm Hektor lens. The pictures at the left and below were derived from the original by making several generations of copies on high contrast film. This dropped out middle tones to produce the dramatic line effect seen here. The author uses this so-called Kostinsky Effect in many ways — to make startling presentations for theater people and for decorative covers on books.



the negative is projected on 8 x 10 piece of Litho film. I, for instance, use Kodalith Orthofilm, Type 3, and develop it in Kodalith developer D-85 or Dektol 1:1 for two minutes. Thanks to the film's ortho emulsion, this can be done by the light of a red darkroom bulb, available in any photo store. Actually even a yellow-safe-light can be used, but there is always a danger of fogging the film, if the light-source is too close or too bright. Keep the film in the hypo for 3-4 minutes, wash it for ten minutes, and dry it. Take the dry 8 x 10 diapositive and another unexposed 8 x 10 sheet of Litho film, sandwich them and make a contact negative by using the enlarger as a light-source, and develop the film as before. The result — again — will be a high contrast negative with shadows completely transparent and all highlights solid black.

Litho film is normally used by engravers and is distributed under different trade-names such as "Kodalith," "Cronar Ortho A Litho Film," "Reprolith" and others. Not every photo store is licensed to handle Litho film, so if you have a problem in getting it, write to the manufacturer for a list of stores in your area which carry it.

Incidentally, don't be surprised, if your Kodalith negatives have a lot of pinholes; this is one of the characteristics of the film. You can easily spot these out with Kodak Red Opaque and a #00 sable brush. Here's a tip: Where a big area of density is involved, instead of going through the process of covering hole by hole with opaque, use small pieces of masking tape to do the job much faster. Black photographic tape, opaque, and pressure-sensitive is excellent for the purpose.

other applications

Part of my commercial work is the making of photographic books, such as actors' portfolios, children's books, etc. I have worked out a system that adds up to a well-designed, artistically conceived unit. In working with the Leica, on a project, I often wind up with more pictures on hand than I can use. By selling my client the book idea, I provide a service that many photographers shy away from. The "book approach" can also do wonders in dressing up your own family album. The book or portfolio idea itself is not new. Usually it consists of a number of pictures mounted back to back and then spiral-bound. My contribution to this concept is the addition of a decorative front-cover, inside-cover, title page, date page, signature page and back cover. Integral parts of this unit are the front and back covers, the others are optional. In designing these special pages, the Kostinsky Process plays an important part.

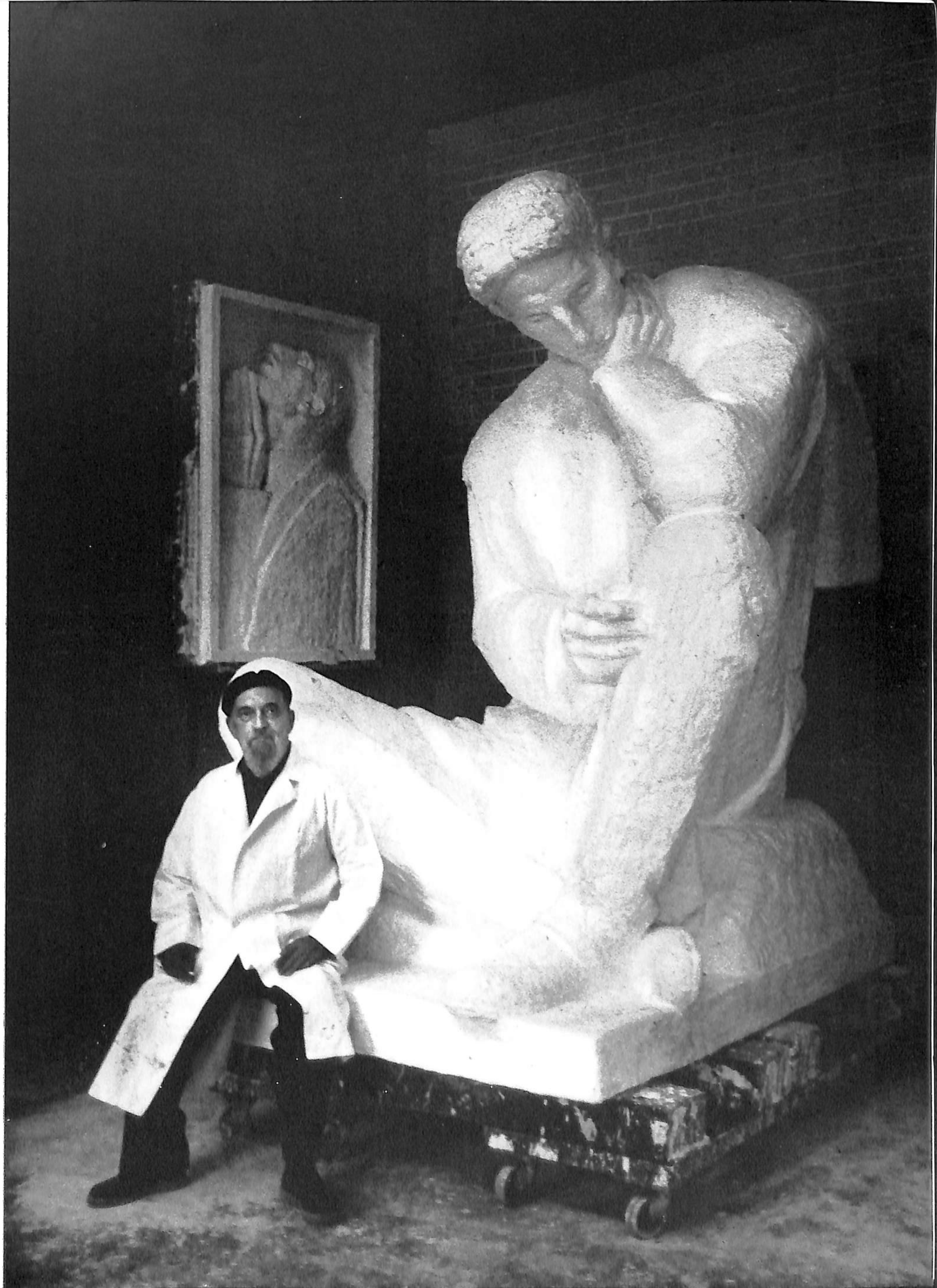
showplace

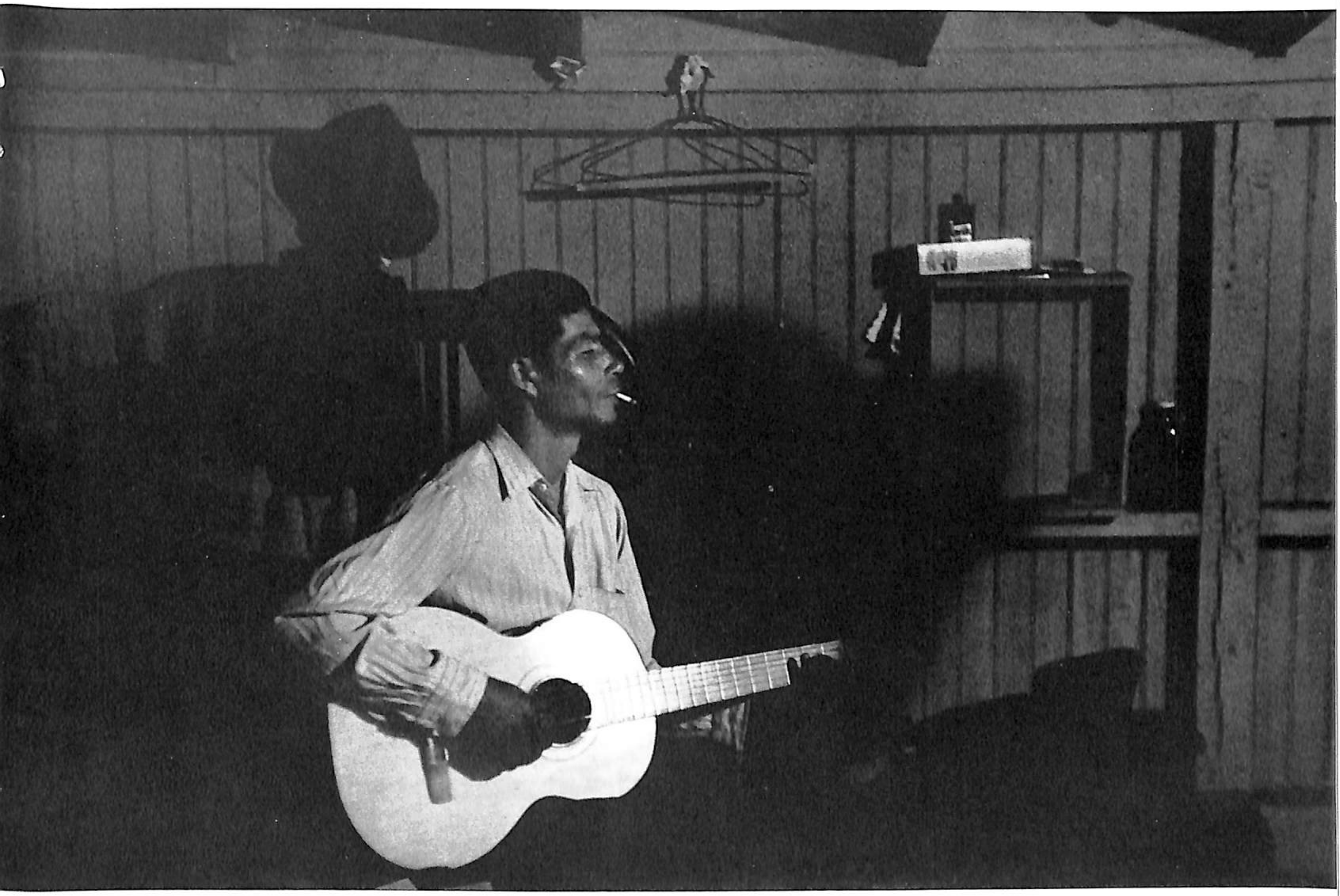
CHARLES HARBUTT, photojournalist

Charles Harbutt's professional exposure to photography came first as a writer and editor. At Marquette, at the University's College of Journalism, he edited the school journal and his Dean told him to "stick to writing." And more recently at Jubilee Magazine, where he was an editor from 1956 to 1959, he did much writing and very little photographing. But his interest in photography came much earlier; he admits having been suspended from High School for smoking in the darkroom! His occasional photography in Jubilee Magazine caught the eye of the editors of Modern Photography, and it was the result of a feature on him in that magazine that led him to embrace photography unequivocally. His photographs there early in 1959 had caught the eye of the fledgling Castro Government in Cuba. He was invited, along with a group of writers and artists, to come to Cuba and help document the then-popular revolution. The group fell apart for various reasons, but Charles Harbutt the photographer was on his way. He flew around the world and photographed. At this time he dreamt of the photographic essay, the profound, symbolic sequence of photographs such as Eugene Smith had so often brought to the pages of the magazines.

In Pakistan

Sculptor Ivan Mestrovic ►





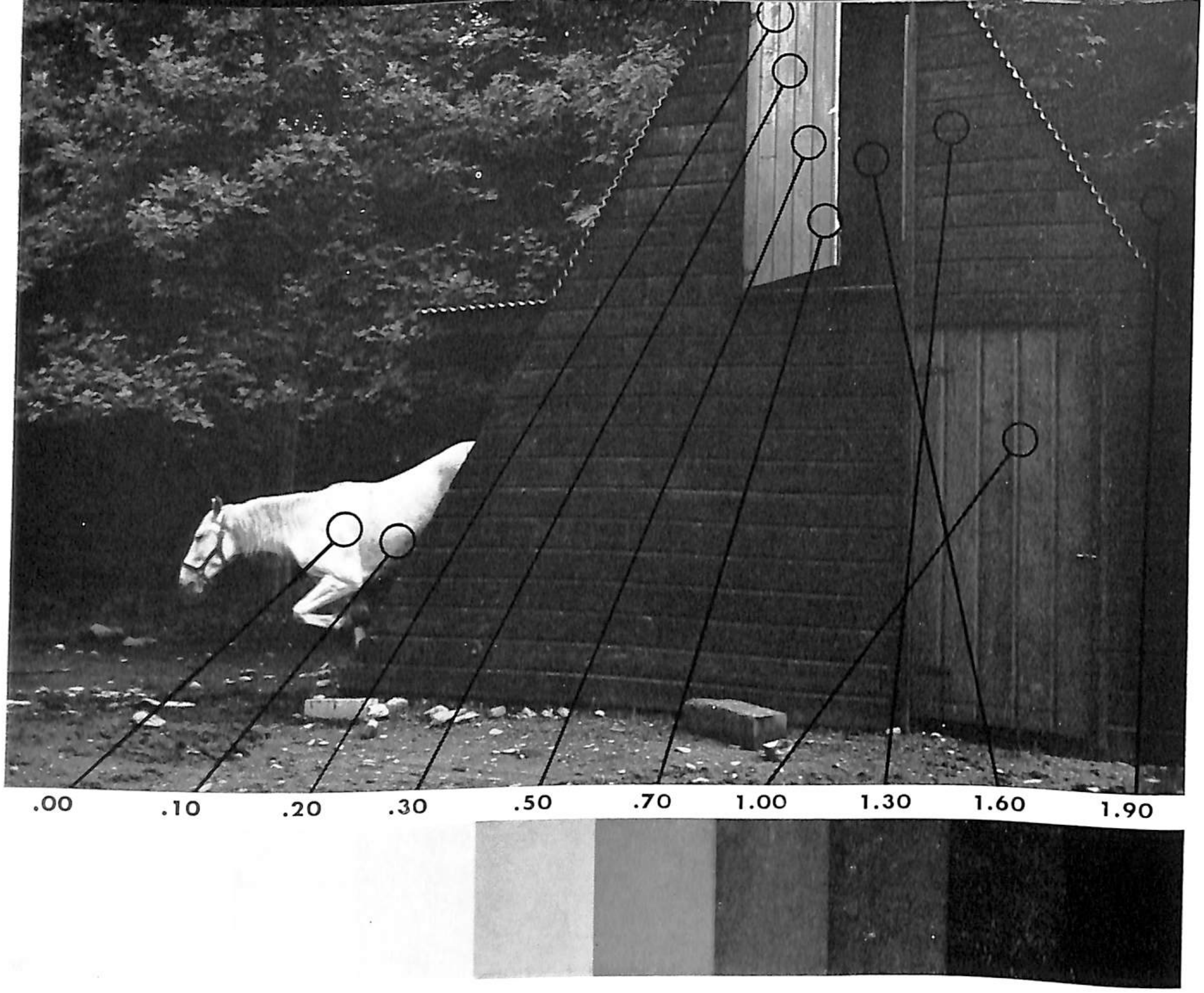
◄ **In Kentucky** Left and Center Spread

Migrant Worker, New Jersey

One of Harbutt's early essays on blind children was thought out in just such a way – highly organized pictures on two levels, the symbolism emerging out of the conscious organization of the photographs. It appeared in Jubilee Magazine, and was exhibited in its entirety at the Museum of Modern Art's exhibition on "The Photographic Essay" recently.

Some of Harbutt's better known photographs are the series on poverty in Kentucky, commissioned by the Democratic National Committee. He has been an associate member of Magnum since 1963 and became a full member the following year. He feels that since then he has become more influenced by the work of Henri Cartier-Bresson, at whose invitation he joined the organization. He still tries to do one or two photographic essays a year, but is aware that there is now little place for such essays in the magazines.

Harbutt enjoys working with color. His cover photograph is part of a story done recently in the Caribbean. However he does not expect profound meaning from color photographs, feeling that color cannot as yet be satisfactorily controlled. Black-and-white is the film found in his camera for most of his photographic work and when photographing for his own pleasure. He uses both the M3 and the M2 cameras and a variety of lenses.



gray scale: key to photo control

Peter Moore

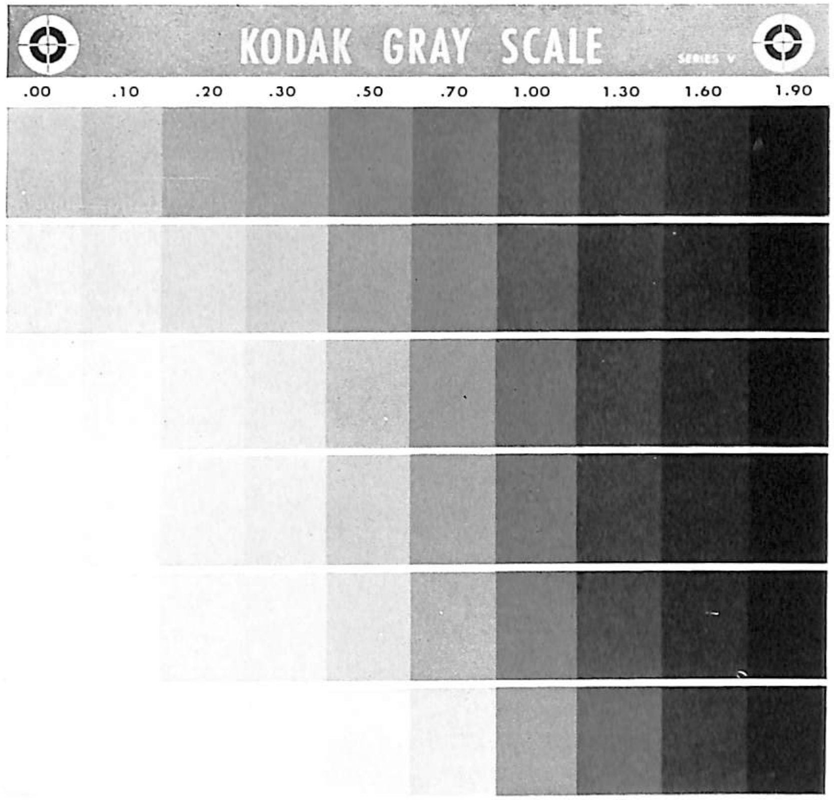
use it for consistent results

Is every print you make a battle royal between you and your negative? Do your color slides project consistently too light or too dark? Do you usually print on a normal grade of enlarging paper, or are you constantly shifting grades? If so, you're probably working without proper exposure and printing controls.

The basic technical problem in photography is to reproduce the unique gray scale of a subject faithfully in the finished photograph. Since each subject has its own characteristic gray scale or tonal range, and a specific paper or positive film has its own, and shorter, range of response, some "fitting" must be done to reproduce the former on the latter. There are a number of ways to do this. In a studio set-up, lighting can be altered. In a natural light situation a different angle or time of day may help. Ansel Adams and his followers work with one paper and vary the development of their negatives to suit – a good procedure for those working with small quantities of film that can be handled individually, and large enough not to suffer excessive quality loss under forced processing. But these Zone System techniques are not well suited to developing miniature roll films having 20 or 36 pictures more or less inseparably bound together.

With miniature negatives, it seems practical and convenient to develop to a fixed contrast, thus reproducing the scene as it was at the time photographed. If the average subject can be reproduced on a normal paper with maximum accuracy, then unusual subjects and interpretive needs can be handled by different paper grades and local controls such as dodg-

CHART 1



TRI-X FILM, rated (with one exception) at 400 ASA and developed for varying times, was the basis of these gray scales. Two-minute development required film to be rated at 100 ASA to produce shadow detail with such short processing time. All strips were printed on No. 2 bromide paper, matched for maximum black. Developer: D 76 at 76°F.

ing and printing-in. The problem has been to define the "average subject" and find a simple way to judge how effectively we've reproduced it.

In sensitometry, the method, much simplified, is to photograph a "gray scale," process the negative under controlled conditions, and evaluate the results with a densitometer – a precise instrument for measuring how "gray" the negative is. The final result is plotted on graph paper, producing a curve that tells the scientist just what the negative is doing to the subject. This curve (you've heard of it many times, probably) is called an H & D Curve or a Characteristic Curve. To the scientist, it's more important than the picture; to the working photographer it means little or nothing in relation to his visual results.

a positive control

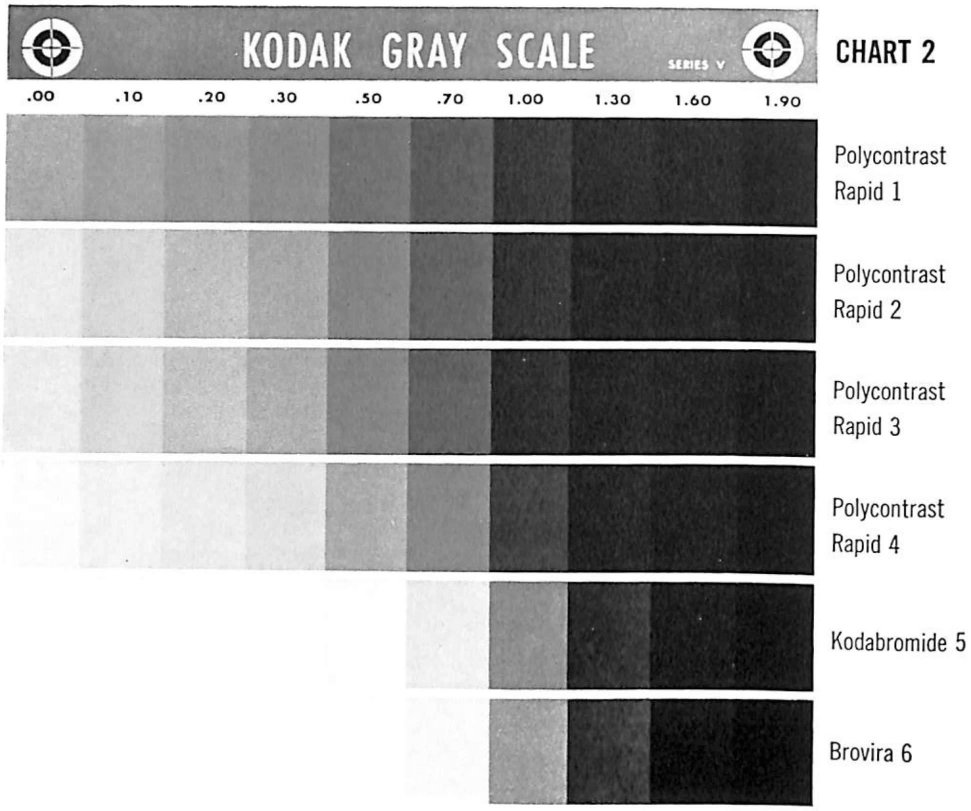
But we're going to use the same subject, a gray scale, photograph it, and *print* the thing! The result will be a replica gray scale – a *visible* characteristic curve relating our processed negative to a specific grade of paper. Either we reproduce it, or we don't. Every error we make will teach us something about photography. Using this gray scale we're going to learn how to expose and develop our film precisely to the requirements of our personal equipment, methods and preferences.

First, you'll need a gray scale. We used the one provided as part of the Kodak Color Separation Guides set. Most camera specialty stores carry them or can order one for you. The 7" set costs $1.50; the 14" size, easier to photograph if you don't have close-up equipment, costs only $1.95. You might also get a set of Kodak Neutral Test Cards ($1.25 per envelope of 4), which are useful, too. (Other makes of gray scales are also available. Or you can make a very neat test strip on unferrotyped glossy paper, mount it to keep it flat and store it for further reference. But if you lose it, or it gets dirty, you'll never be able to reproduce it exactly.) Also included in the Kodak set are a set of standard Color Control Patches and a sheet of Register Marks. Save the color patches. The Register Marks are a challenge to your imagination. If you can figure out a use for them, I'll give you all my leftovers. The small set is convenient to handle, store or carry. A large one, mounted on an evenly lit area of my darkroom wall, serves for quick tests of development accuracy.

b/w first

You can start with a basic black-and-white test for your present developing and exposure procedure by exposing five frames at the end of some roll currently in your camera.

Set up the card so that it is evenly lit by artificial light at about a 45° angle. You can use only one light if the gray scale is set up so that both ends are at an equal distance from it. But if one end is nearer, it will be more brightly lit than the other, and results will be misleading. Two lights are better, and a copy stand is a convenience – particularly if you want to do extended tests. But for the relatively sim-



PRINTING PAPER comparison is shown by this series of gray scales. Tri-X film, exposed at ASA 400, developed for five minutes in D 76 produced negative used to make the various prints shown. Prints were made on various papers and paper grades; maximum blacks were matched.

ple tests for exposure with one film developer combination, simple equipment is enough.

If you use the 14" scale, close-up equipment is not necessary. Just light it, put you camera on a tripod and get as big an image as you can with your normal lens. If you use the small scale, don't get too close, include it in an 8 x 10-inch area and you can avoid correcting for bellows extension. It is important to avoid glare, as the scale is printed on a relatively glossy paper. Look at the scale with one eye from just in front of your camera lens. If you see glare, shift your lights until it disappears. Use enough light to get a healthy meter reading – at least 1/30th sec. at f/8. This will increase the accuracy of the reading and avoid possible reciprocity-failure problems. The 18% gray side of the Neutral Test Card is convenient for making accurate reflected light readings. An incident light reading is even more convenient and consistent.

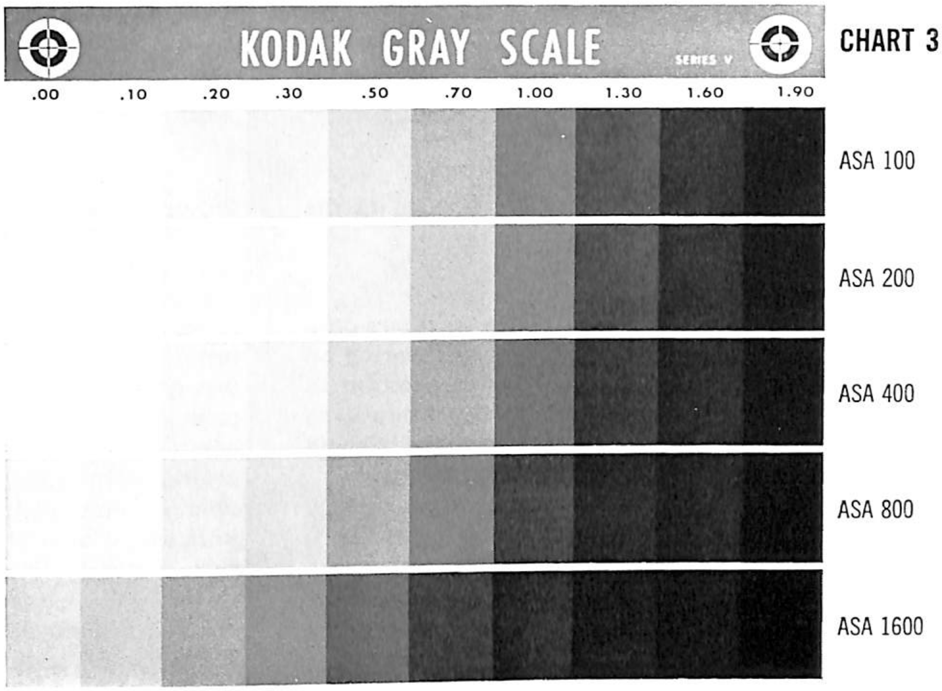
With my set-up, (two 75-watt reflector floods – not photofloods), a typical Metrastar incident reading was 1/30th at f/8 for ASA 400. For your own lighting, set your meter for the speed rating you normally use with the film, take an accurate close-up reading off the gray card or make an incident light reading. Pick a shutter speed that will permit use of an aperture setting in the middle of the range of the lens in use. Holding the shutter speed constant, expose one frame two stops more, a second with one stop more, one according to the meter, another one stop under and a fifth two stops under what the meter calls for. These will represent 1/4th, 1/2, normal, twice and four times the normal film speed.

If you have a fixed lighting set-up, you can figure out the equivalent aperture for each ASA speed you're interested in, record it and use it permanently until your bulbs age.

Process the film normally in your usual developer, making careful note of the temperature, time and agitation intervals used. Examine the negatives carefully. Starting with the thinnest one, go down the line looking at the most transparent steps in the scale (representing the darker end of the scale). The first negative showing a clear separation between black (1.9) and dark gray (1.6) represents the minimum correct exposure for full shadow detail. After the negatives dry, print this one as a check. If you use 5 x 7 paper you will have a close approximation of the size of the smaller scale which is convenient for comparisons. It's a convenient size for the large scale also, since it is needlessly costly to make 11 x 14's.

Take a sheet of normal paper (I stay away from high contrast paper, when possible, to hold down the spotting problem) and make a test strip covering the 1.6 and 1.9 areas. Choose the exposure that renders the 1.9 as black as possible. The 1.6 area should then be rendered as a dark gray. If it isn't, try the next denser negative, make another test strip, and make a mental note to use this lower ASA rating if you want full shadow detail.

CHART 3



VARYING EXPOSURE indexes and fixed development produce scales which can show you the best ASA rating, developing time and temperature for a given film. These were made with Tri-X, processed for five minutes in D 76 at 76°F. Negatives showed detail in the 1.60 strip at 800 ASA, but prints required ASA 400 negative to produce detail in this area. Note that whites degrade progressively with increasing underexposure. Use of higher contrast paper would restore whites, but add no shadow detail.

Now make a print of the whole scale at the previous correct exposure. Look at the light (.00 and .10) end of the scale. If you get a clean but not featureless white, as in the original scale, your development time is on the button. If it's grayish, you've underdeveloped; if it's washed out, you've overdeveloped — *for that grade of paper*. If it matched, you're very precise (or lucky). If it didn't, you're like the rest of us.

The normal reaction would be to try the test negatives on harder or softer paper, or dodge or burn-in the offending end of the scale. But as soon as you try this, you're using up potential creative controls by using them to correct for the deficiencies of your original processing. It's both easier (in the long run) and better to shoot another test (even using your confirmed speed rating) and alter your development next time. A couple of tries should produce negatives custom-fitted to your normal paper. And a far larger proportion of your prints will go without effort onto normal paper. Local burning-in and dodging, etc., can then be used for interpretation, special effects, or to match the requirements of unusual subject matter.

When you get a normal-paper gray scale, try it on different paper grades, matching blacks, and you'll have a visual picture of what they really do. You can then use them as a guide to visualization when shooting by saying such and such a scene is a #3 paper scene, or a #1 paper scene depending on its appearance.

Repeat the basic test with each film you use, and you can zero them all in handily. A periodic one-shot test should be made and checked to keep tabs on such things as developer replenishment, temperature changes, or aging.

Carefully exposed tests, developed to match the same paper, using different films and developers, should show any comparative difference in working film speeds. If you can see printing separation between the black and dark gray patches at a higher film speed and still produce a fully-toned gray scale replica, then you can conclude that a developer or film actually produces more shadow detail than its competitor.

Comparative tests of this kind must be made with great consistency and care. Lamp light output must be checked for consistency, diaphragm settings should always be made from the same direction. We always start wide open, then close down to our largest working aperture, proceeding progressively down to the smallest. You can write notes on exposure conditions on sheets of paper and shoot them in-between test series. You might find it helpful to make up an ASA clock with moveable hands to indicate the equivalent ASA value of the exposure, shooting it along with each test. Careful records of developer type, temperature, time and type of agitation should be kept and can be lettered with India ink on blank frames. Make sure your wife's not ironing on the same circuit when you are shooting, or your bulbs may dim enough to cause unexplainable decreases in film speed.

By picking a middle patch of the scale, such as the .50 gray, and blowing it up to the full magnification possible with your enlarger, focusing carefully on the grain, you should be able to compare the graininess of different film developer combinations. To make this possible, all tests should be shot at the same camera-to-subject distance.

filter factors

The effect and exact exposure factor of filters on a particular film, can be easily found by shooting an exposure test series with the filter in question in place. The new film speed can be determined as before. Printing the scale and patches together and comparing it with the equivalent unfiltered print, the effect on the filter on typical colors can be seen and recorded. Do this with a few filters, and keep the results, and you'll have a first-rate education in their effects. You can use the new ASA rating directly in your meter, or divide it into the original rating to determine a factor.

One of the classic uses of the gray scale is in copying. It may be difficult to recall what the original picture of Aunt Minnie looked like if you have to make a print long after the original has been lost. The problem is even greater if your subject is an abstract colored original. If you photograph a small gray scale simultaneously with the original (make sure it gets the same lighting), all you have to do is reproduce the gray scale properly to ensure that you reproduce the original.

I found out quite a lot from these tests. For instance, lenses with flare, or uncoated optics will flatten the gray scale a bit, indicating that a slightly longer development time would be optimum for negatives taken with them. In this case, you could go to a harder paper. Variations in the rendition of the middle gray tones of replica scales taken on different films will provide some insight into their relative characteristic curve shapes. Film A may have better separation in the darker tones than B, etc. The color patches will indicate differences in color sensitivities of different black and white films. If you should need to copy printed material but don't want to use special films and developers, try developing an exposure series made with a medium or slow speed film for progressively longer times. Judge your exposure from the .00 .10 separation at a high-contrast development time. Here you will want the contrastiest negative you can get, exposed just enough to wash out the white tones.

for color

In color, the Gray Scale and Color patches have many uses. The gray scale can still be used as a guide to color exposure. The colors will fall midway in brightness between the black and white patches of the scale, so a correct exposure for the scale will still be a correct exposure for the colored subject. For color tests, the scale must be illuminated by light of the correct color for the film in use. Use the recommended bulbs or correction filters for the film in use, or take the card into direct sunlight as the case may be. It's well to vary exposure in half-stop increments for color tests. To avoid the effects of reciprocity failure in test transparencies, use enough light for the minimum shutter speeds recommended by color film manufacturers. To evaluate the finished transparency, project it in your projector under normal viewing conditions and pick the speed index value that projects best. For critical work, especially with slower, more contrasty films, you may not be able to find a single rating that will give both good highlight detail and full shadow detail. Note the speed ratings for both extremes and use the appropriate one when you are shooting unusually dark or light subjects. Differences in the rendering of the gray tones of the scale and color patches will show errors in color rendition due to either improper filtration or different characteristics of the film itself. It's possible to test color rendition on films of different types with the same techniques, but make sure your exposure is correct as shown by the gray scale rendition before making judgements about color reproduction of the film. By selecting a deliberately low light level and working with long exposures, you can see the effects of reciprocity failure on color balance and film speeds in the rendition of the gray scale and color patches on viewing. Correcting filters and new speed ratings can be estimated and confirmed with further tests.

A word of caution – photography, as most of us practice it, falls someplace between a scientific and an interpretive process. Following any system without thought will lead to compromises in quality. This system is based on the premise of the average scene reproduced faithfully. It has been my experience that any interpretive needs can be met in printing the negatives so obtained. The knowledge obtained in using it should lead the way to a more deliberate use of different paper grades to achieve desired effects. It is not *always* desirable to select the paper grade just suited to the tonal *range* of the negative. On extremely long-scale subjects this may lead to a degradation of tone in important areas of the subject. In such cases, use of a harder paper with attendant burning-in and dodging may lead to a better print through improved tone separation in important areas.

The intent of this article is to develop a working basis for producing optimum and repeatable negative quality, not to reduce printing to a mechanical act. Printing should be convenient but thoughtful. A gray scale is an aid in making pictures, not an end in itself.

big game? big lens! / *Thase Daniel*

photo tips for your next safari

Africa is a paradise for bird, animal and scenic photography — but adequate photo equipment is a must! Some photographers visiting Africa for the first time think a 135mm lens is going to be long enough. But the fact is, it takes a 400mm if you want the animals and birds you photograph to be more than specks on the film. Of course, there *are* times when a 200mm or even a 135mm, is adequate. But this is not the rule. Since game will move away if you try to get close to it with your car, a really long lens is almost always needed. I used my Telyt 400mm lens more than any other on both of my trips to Africa.

know your gear

Try out the long lens and all your other equipment and become familiar with it before you arrive "on location" in Africa. It will be too late to fumble with new equipment when a huge elephant flaps his ears forward, raises his trunk and charges the car, or a herd of wild beasts stir up a cloud of dust as they race by you. A long lens, such as the 400mm must be mounted on a tripod, or, at very least, a pistol grip or gunstock to ensure sharp images. (Image motion is magnified by the same factor as image size by a long lens . . . Ed.) Nerves are tense and hands can be unsteady in trying to hold even a short lens, (much less a long one) without a support. What's more, by using a telephoto lens on a pistol grip or gunstock, you will be able more easily to follow a running animal or the flight of a bird.

Carrying two camera bodies can sometimes make the difference between getting and missing the picture you want. Keep one body equipped with a long lens and the other one with a shorter lens — such as a 90mm or a 200mm. This will enable you to use without delay the focal length suited to the subject. Despite using two cameras you will still occasionally have to change to another lens. But you will have at least one camera and lens which can be used quickly. Also, if one camera should be damaged, you will still have one to rely on.

Cameras can become empty at a crucial moment, so always use 36-exposure rolls when photographing wild life to keep the odds in your favor. A second camera is handy for this problem, too. When one

CLOSE-UP of Fish Eagle was made possible by 400mm.

film runs out, pick up the other camera and keep shooting, even if the lens on it is not ideal for the scene. Otherwise, you will lose the sequence entirely.

Use an exposure meter and believe it! The light can be so photographically intense that it is easy to overexpose when guessing exposures. (The Leica-Meter MR and Metrastar meters have comparatively narrow angles of acceptance, a situation appropriate for long-lens use . . . Ed.) If you *must* shoot without a meter, it is a good idea to bracket; shoot three pictures – one at what you think is correct, one at a stop less and one at one stop more. This way you are bound to get one correct exposure.

flash is useful

There are times, even under Africa's bright sun, when a flash is the best way to get the picture. It will help fill in shadows in pictures of people, and in dense shade, a bird or a flower can be pictured with flash where it might otherwise be too dark to shoot. If you use electronic flash, remember that, even if electricity is available, the line voltage is different in Africa than in the United States and that you will need an adapter to be able to plug into the electric outlet. Sometimes, too, the power plant can fail. Battery-powered electronic flash, with an extra, fully charged battery is a handy light source for all locations. Just be sure that your unit's battery charger is adaptable for use on other than 115-Volt current. Flash bulbs are also reliable provided you know the bulb and are sure of the guide number. But they are bulky if you need to carry a large quantity along.

dust a problem

Traveling across country by car or just going on a "game run" in a National Park, you will find that dust seeps through the floor and cracks and will cover exposed cameras. Because of this, I kept a large plastic bag over the entire lens and camera. The size that covers a suit returned from the dry cleaner's will cover a long lens and camera. En route, it is necessary to keep a camera ready to use as well as clean, because you never know just when an animal will appear. The plastic bag, rather than the sealed gadget bag, is the answer to the problem.

Also, use a lens brush many times during the day. Even between exposures, dust can settle, for animals and cars can stir up a cloud of it. Each night clean all of your cameras and lenses. Liquid lens cleaner

OVERALL VIEW of the elephant herd was made with the 135mm lens.

and tissues remove the day's dust. (Blowing off the loose dust with a blower-brush is recommended before tissues are used . . . Ed.) I find that the little cotton swabs-on-a-stick, normally used for cleaning children's ears, (available at your drug store) are valuable for getting at hard-to-reach corners of equipment.

Rough road and airplane travel can vibrate screws out of equipment, so take along a set of screwdrivers which will handle very small to medium-size screws. It is a good idea to "tighten up" each night. I failed to do this one night and the next day I lost two screws and never did find them.

which film?

Each photographer has a film he swears by, but it is important to use a film fast enough to provide a shutter speed of 1/250th with the correct f/stop. This will usually give a sharp image of fast-moving animals and even the flight of a bird.

Always have twice as much film as you *think* you will need. Each day seems more exciting than the one before, and the rolls of exposed film can exceed all expectation. In three months, for instance, I shot 225 rolls.

It is possible to buy film in the larger towns in Africa and in many of the National Parks but if you insist on using one particular film by all means take a supply with you. You may not be able to find the kind you want when you need it.

Despite the need for a 400mm lens, if every animal you photograph fills the frame, then your pictures will be monotonous. After one frame-filling shot, use another lens which will include some of the surrounding area. A close-up of an impala, showing his long horns, is a prize shot. But do not overlook the appeal of a picture of a male impala with his harem of 30 to 60 wives, or a herd of elephants splashing in a river.

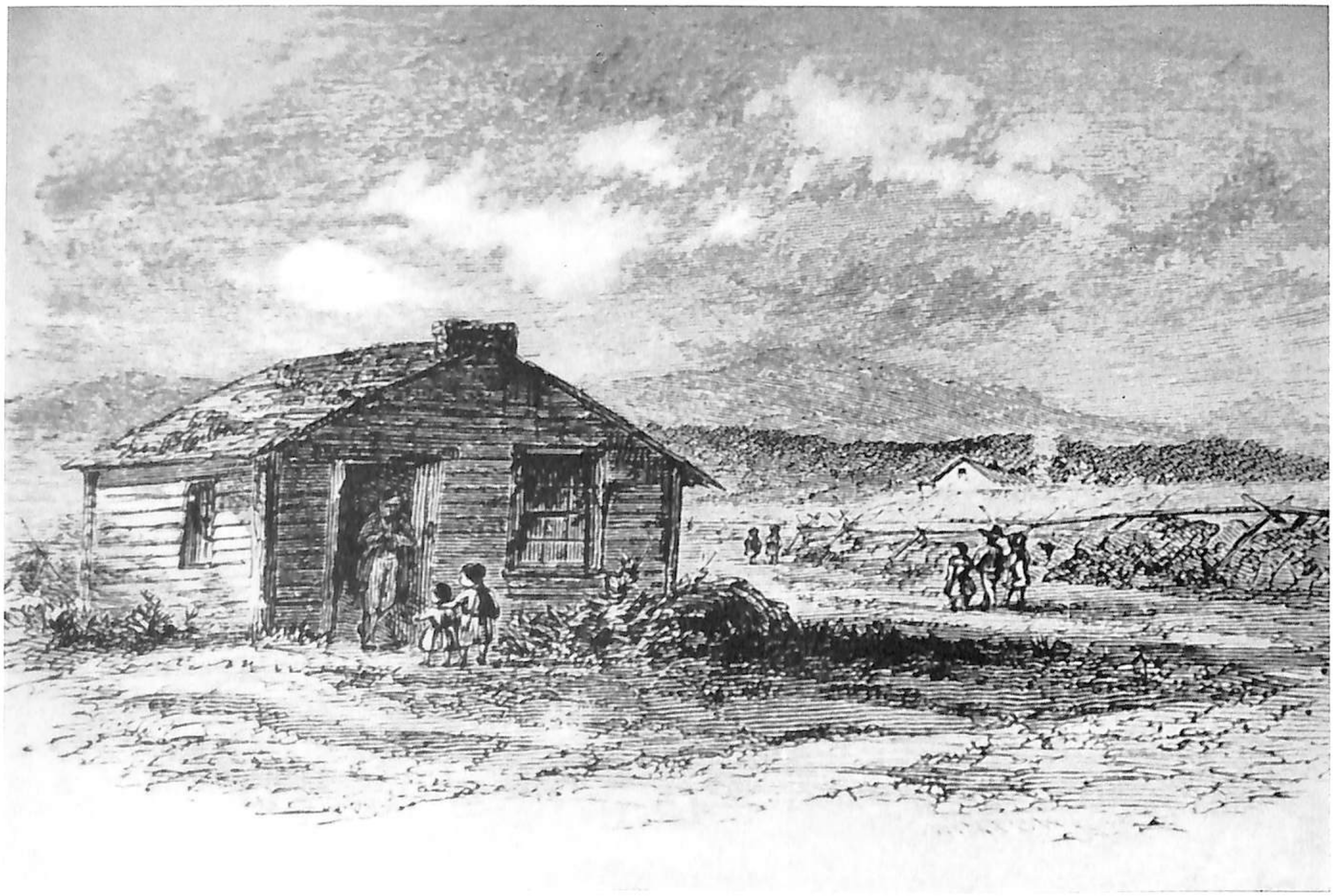
Shots before sunrise can produce beautiful pictures – such as clouds in Ngorangora Crater; mist rising on the Nile river with thorn trees reflected in the river – which could look like an etching. Fever-thorn trees silhouetted on a plain, with a back-drop of a sunset will bring home a true African landscape.

And what applies to an African photo safari applies to wild-life photography anywhere. Long, long lenses, complete familiarity with your equipment and daily maintenance when the going is rough are the keys to success.

IMPORTANT DETAILS can be caught from a distance only by the 400mm.

bring your words to life / *Walter Benson*

slides add sparkle to speech



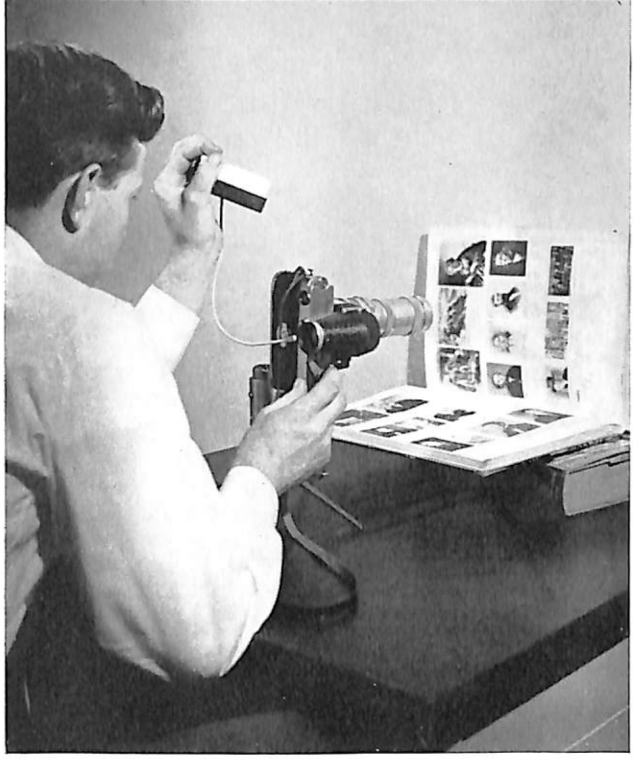
SLIDE OF OLD ENGRAVING showing Horace Greeley's schoolhouse, livens author's speech about the editor's life, given as part of a summer course. Easily made slides, prints of contemporary illustrations add to impact of school, professional speeches and papers.

Want to add a little pep to your term paper? Want to put some zip into your oral presentations? Want to sharpen your communication technique? Every college student, or, for that matter, every communicator of ideas, wants to put his point across to his audience with absolute clarity.

So, to help successful communication, why not use visual aids in all your presentations, verbal or written? Photographs permit your audience to participate in your presentation because they can see for themselves what you are trying to explain. And when your audience visualizes what you are talking about, very little is left to their imagination. Many of the questions normally asked after presentations made without visual aids simply will not arise.

With photographs you can easily stress a particular part of your presentation simply by showing a picture of the material you are trying to explain. The audience will more readily grasp your key points if they are made with visual help.

I recently attended a summer study session which involved the creation of both oral and written presentations. One presentation in which photographs proved their value was an eight-minute speech I



VISOFLEX with 135mm lens unit is author's favorite on-the-spot copying device. He uses Braun Hobby F25 as a light source.

19th CENTURY DRAWING of young Greeley was projected as author gave a verbal description of the "gawky country lad."

made on the life of Horace Greeley. It was while doing the research in books written by contemporaries of the great editor, that I realized the great potential of creating a visual supplement to my presentation.

Can you think of a better way to reinforce an author's description of Horace Greeley as a "gawky country lad, tall in figure, slender, his head covered with a growth of yellow tan-colored hair, careless dress," than with a copy of an engraving which the mid-19th century writer used in his book? Nor could my words convey Mr. Greeley's feelings on women suffrage as well as a slide of a contemporary cartoon on the subject.

on-location copies

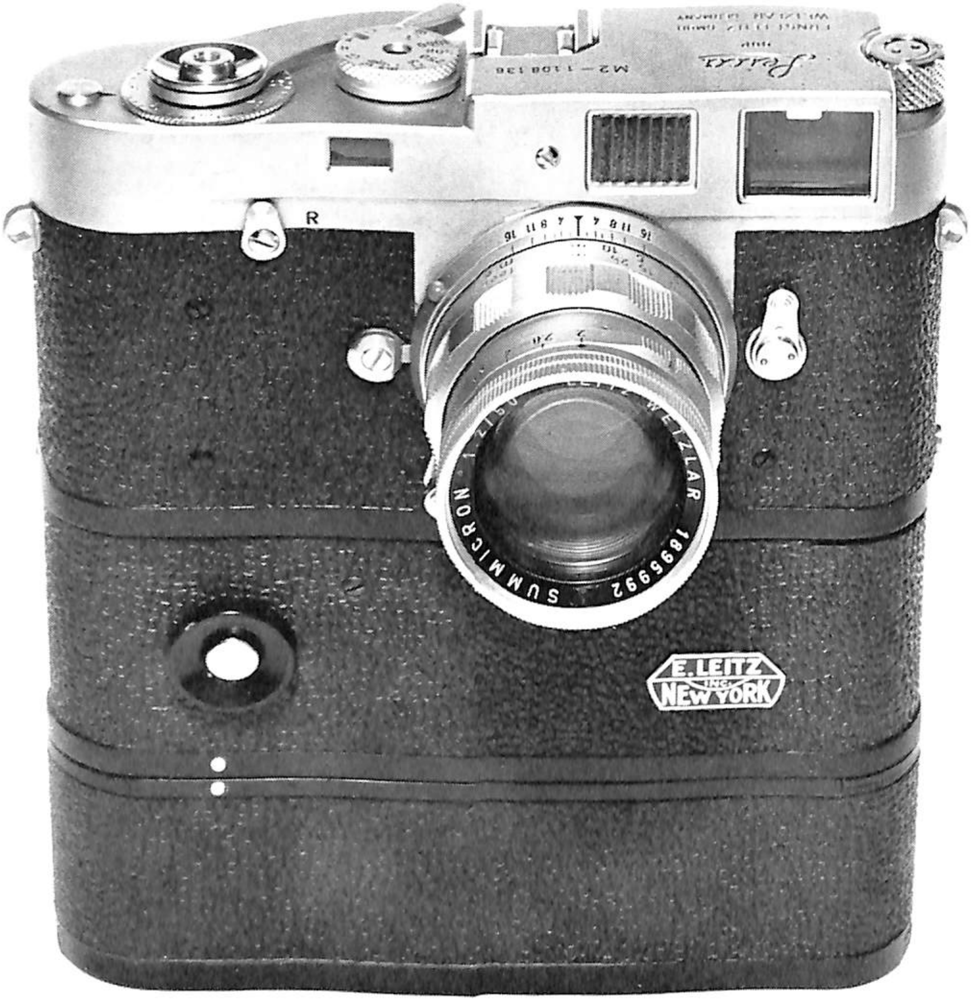
Since most of the material to be copied will be in books that normally cannot be taken out of libraries, the Leica and some simple accessories can provide easy, on-the-spot filming. With very little practice, material, or equipment, you will be able to photograph all types of reference material anywhere.

In making my Greeley slides, I made some pictures with the Dual-Range Summicron in the close-up range. But most exposures were made through the lens head of the 135mm Elmarit on the Visoflex with Universal Focusing Mount #16,464, Adapter Tubes #16,471 and #16,472. The latter were used individually or together, depending on the size of the material being photographed. Because the Visoflex has no parallax, you see exactly what you will photograph. Almost all my photographing was done handheld. When, occasionally, I would use the Leitz table tripod, I used other books to raise the material being copied to the proper height so it would be parallel and in line with the lens.

For lighting, I used the Braun Hobby F25 because it is lightweight and efficient. I could focus and compose the photograph using both hands then, when ready to make the exposure, pick up the Braun Hobby. To avoid reflections that could come from the pages printed on glossy paper, I placed the light at a 45° angle to the page's surface.

Not having access to a darkroom, I used either Kodachrome X or Kodacolor X films. I sent the film for processing, into either prints or transparencies, to an Eastman Laboratory. I used the Kodacolor X for prints to go with a written report, and Kodachrome X film for slides to go with oral presentations.

The first big step in improving school reports was the switch from the pen to the typewriter. The next is the addition of pictures to the written and spoken word. Make this next step for yourself, and see the effect on your teachers, audience — and marks!



the automatic side of a Leica

is the new motor drive that adds depth and dimension to your photography. Manufactured and distributed only by E. Leitz, Inc., New York, this compact battery-operated unit has no end of uses in such fields as news, sports, industry, science and medicine.

Need a rapid series of shots? The motor drive automatically exposes a preset number of frames — approximately one per second at shutter speeds of 1 to 1/1000th . . . or at the even faster rate of approximately 2½ frames per second at 1/50th to 1/1000th. Shooting in normally unapproachable or dangerous areas? Operate your Leica with the 100-ft. remote release cord, or for greater distances by wireless remote control. Motor drive fits all Leica M models (except M 3) and does not interfere with manual operation.

Add this automatic side to your Leica System — at your Franchised Leica Dealer. 61966

E. LEITZ, INC., 468 PARK AVENUE SOUTH, NEW YORK, N.Y. 10016
Distributors of the world-famous products of
Ernst Leitz G m b H Wetzlar Germany—Ernst Leitz Canada Ltd
LEICA AND LEICINA CAMERAS · LENSES PROJECTORS · MICROSCOPES

Leica®